

Family Complexity and Children's Extracurricular Involvement and School Outcomes

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This research is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed on statistical or methodological issues are those of the authors and not necessarily those of the U.S. Census Bureau.

Family Complexity and Child Well-Being

- Effects of family structure (single vs. two-parent households and presence of stepparents) on child outcomes well-documented (Astone and McLanahan 1991; Fomby and Cherlin 2007; Sigle-Ruhston and McLanahan 2004)
- Manning, Brown, and Stykes (2014) point out need for understanding family complexity: the combination of family structure and **sibling composition (half, step, and full siblings)**

The Significance of Siblings

- Many children (78 percent) live with at least one sibling and over one-third (36 percent) live with siblings who do not share both bio parents (Kreider and Ellis 2011)
- Parental time, money, and energy are finite
 - Children with fewer siblings perform better on developmental measures (Downey 2011)

Measures of Child Well-Being: Extracurricular Activities and School Experiences

- Children's involvement in extracurricular activities and school experiences have long-lasting implications (French et al. 2015; Zaff et al. 2003)
- Poverty and race/origin influence extracurricular involvement and school experiences
 - Children in poverty are less likely to play sports, take lessons, and participate in clubs than children above poverty (Knop and Siebens 2018)
 - Black children more likely to be expelled than White children (Wallace et al. 2008)

Motivation for This Study

- How many children live with biological, half, step, and adopted siblings?
- Is family complexity (e.g. presence of half/step siblings) associated with extracurricular involvement and school experiences?
 - What about when controlling for race/origin and poverty?

Data and Definitions

2014 Survey of Income and Program Participation (SIPP), Wave 1

- Nationally representative panel survey with detailed demographic and relationship information

FAMILY COMPLEXITY MEASURES

Number of siblings

Type of siblings: Biological,
Step, Half, Adopted

Parents in the home: Two parents,
Mother only, Father only, Guardian

CHILD WELL-BEING MEASURES

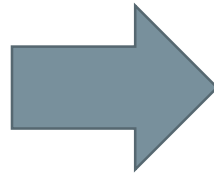
(each measure dichotomous 1=yes, 2=no)

Extracurricular Activities:

Plays a sport,
Takes Lessons,
In a Club

School Experiences:

In a gifted class,
Ever expelled from school,
Ever held back a grade



The 2014 Redesigned SIPP

Changes to the survey and editing process that affect estimates of siblings in the household:

- Expanded fertility section of the survey, including new multiple partner fertility questions
- In previous panels, a respondent identified the relationship between every person in the household
 - This information can now be determined from fertility and demographic questions in the survey

Type of Siblings in the Household, All Children: 2009 vs 2014 (Numbers in thousands)

	All Children			
	2009		2014	
	Number	Percent	Number	Percent
Children	74,130	100	73,540	100
Living with:				
At least one sibling	57,740	77.9	57,600	78.3
Only full siblings	47,620	64.2	42,280	57.5
At least one stepsibling	1,267	1.7	1,642	2.2
At least one adopted sibling	1,231	1.7	1,560	2.1
At least one half sibling	7,987	10.8	12,540	17.0

The redesigned 2014 SIPP appears to do a better job of capturing half sibling estimates

Note: Step, adopted, and half sibling categories are not mutually exclusive

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1 ; Kreider, R., and R. Ellis. 2011. "Living Arrangements of Children: 2009 Household Economic Studies."

Type of Siblings in the Household, Children Living with Two Parents: 2009 vs 2014
(Numbers in thousands)

	Children Living with Two Parents			
	2009		2014	
	Number	Percent	Number	Percent
Children	50,840	100	49,200	100
Living with:				
At least one sibling	42,290	83.2	41,620	84.6
Only full siblings	34,920	68.7	33,440	68.0
At least one stepsibling	861	1.7	1,276	2.6
At least one adopted sibling	1,056	2.1	1,177	2.4
At least one half sibling	5,777	11.4	6,275	12.8

Note: Step, adopted, and half sibling categories are not mutually exclusive

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1 ; Kreider, R., and R. Ellis. 2011. "Living Arrangements of Children: 2009 Household Economic Studies."

Type of Siblings in the Household, Children Living with
Mother Only: 2009 vs 2014
(Numbers in thousands)

	Children Living with Mother Only			
	2009		2014	
	Number	Percent	Number	Percent
Children	17,470	100	18,500	100
Living with:				
At least one sibling	12,730	72.9	13,760	74.4
Only full siblings	10,340	59.2	7,219	39.0
At least one stepsibling	273	1.6	163	0.9
At least one adopted sibling	132	0.8	335	1.8
At least one half sibling	2,029	11.6	6,008	32.5

Note: Step, adopted, and half sibling categories are not mutually exclusive

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1 ; Kreider, R., and R. Ellis. 2011. "Living Arrangements of Children: 2009 Household Economic Studies."

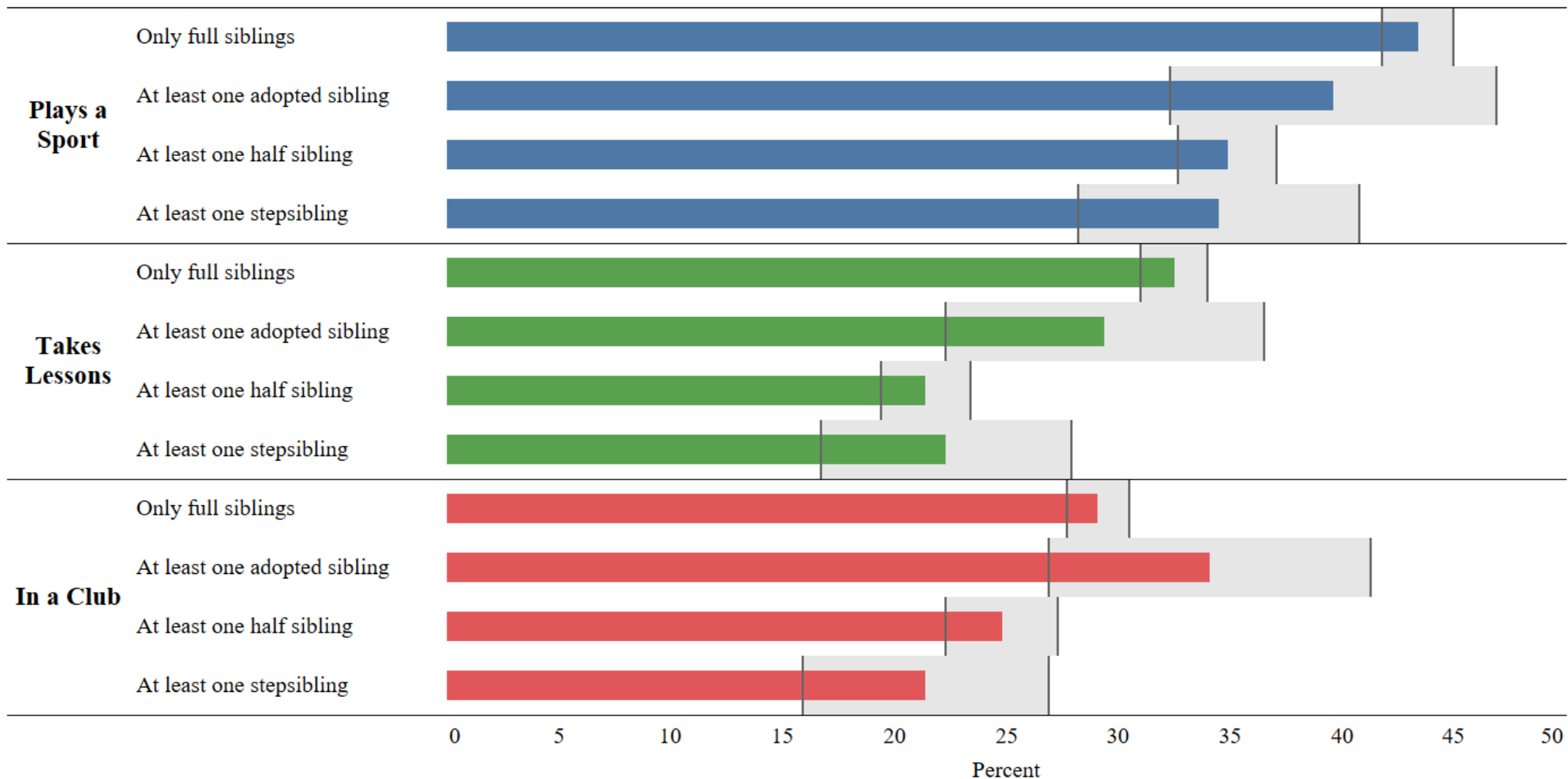
Type of Siblings in the Household, Children Living with
Father Only: 2009 vs 2014
(Numbers in thousands)

	Children Living With Father Only			
	2009		2014	
	Number	Percent	Number	Percent
Children	2,743	100	3,347	100
Living with:				
At least one sibling	1,680	61.2	2,136	63.8
Only full siblings	1,492	54.4	1,618	48.3
At least one stepsibling	115	4.2	203	6.1
At least one adopted sibling	18	0.7	48	1.4
At least one half sibling	61	2.2	253	7.6

Note: Step, adopted, and half sibling categories are not mutually exclusive

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1 ; Kreider, R., and R. Ellis. 2011. "Living Arrangements of Children: 2009 Household Economic Studies."

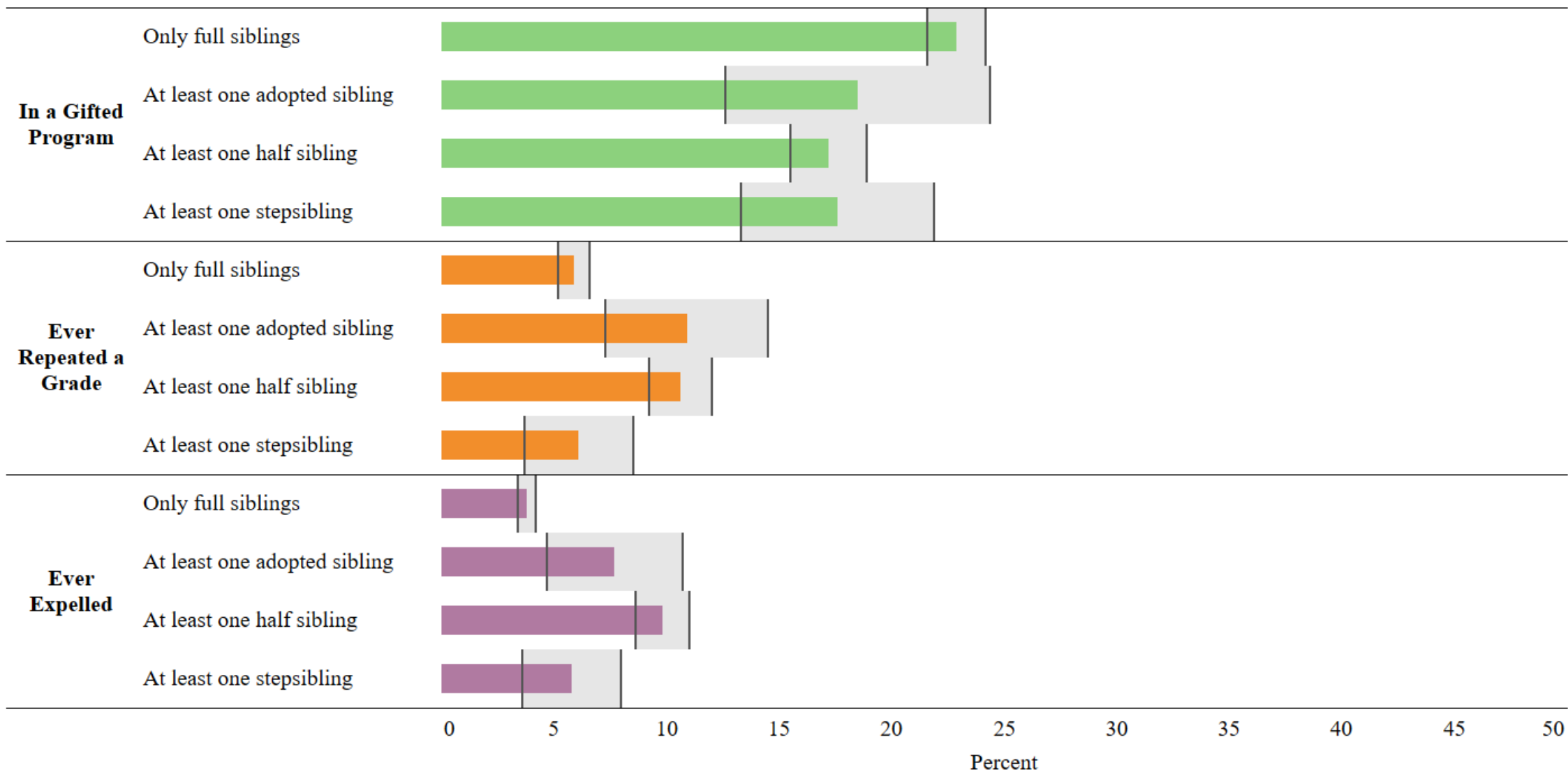
Percent of Children Ages 6-17 in Extracurricular Activities by Type of Siblings in the Household: 2014



Note: Grayed area shows 90% confidence interval

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

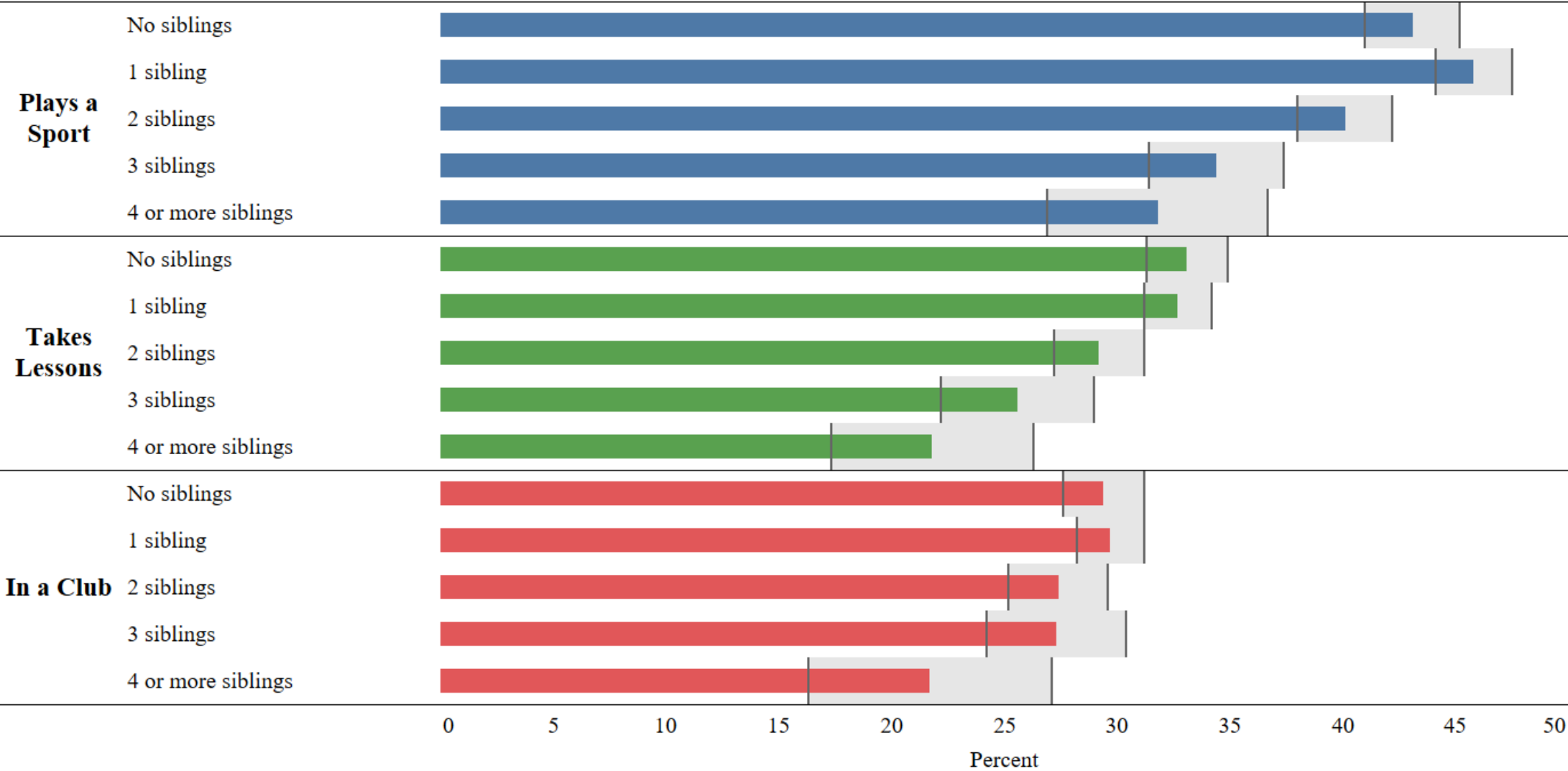
Percent of Children Ages 6-17 with School Experiences by Type of Siblings in the Household: 2014



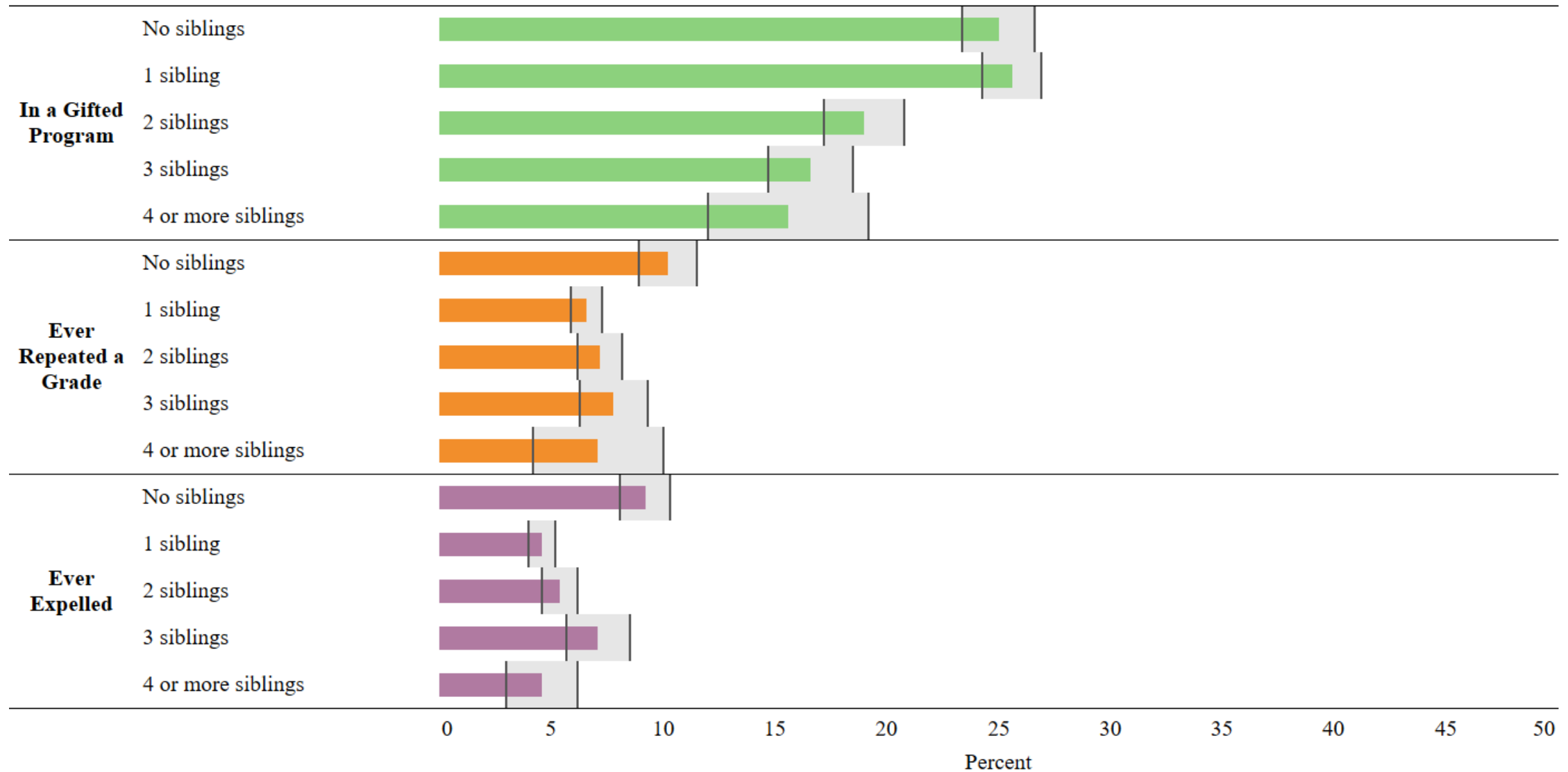
Note: Grayed area shows 90% confidence interval

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Percent of Children Ages 6-17 in Extracurricular Activities by Number of Siblings in the Household: 2014



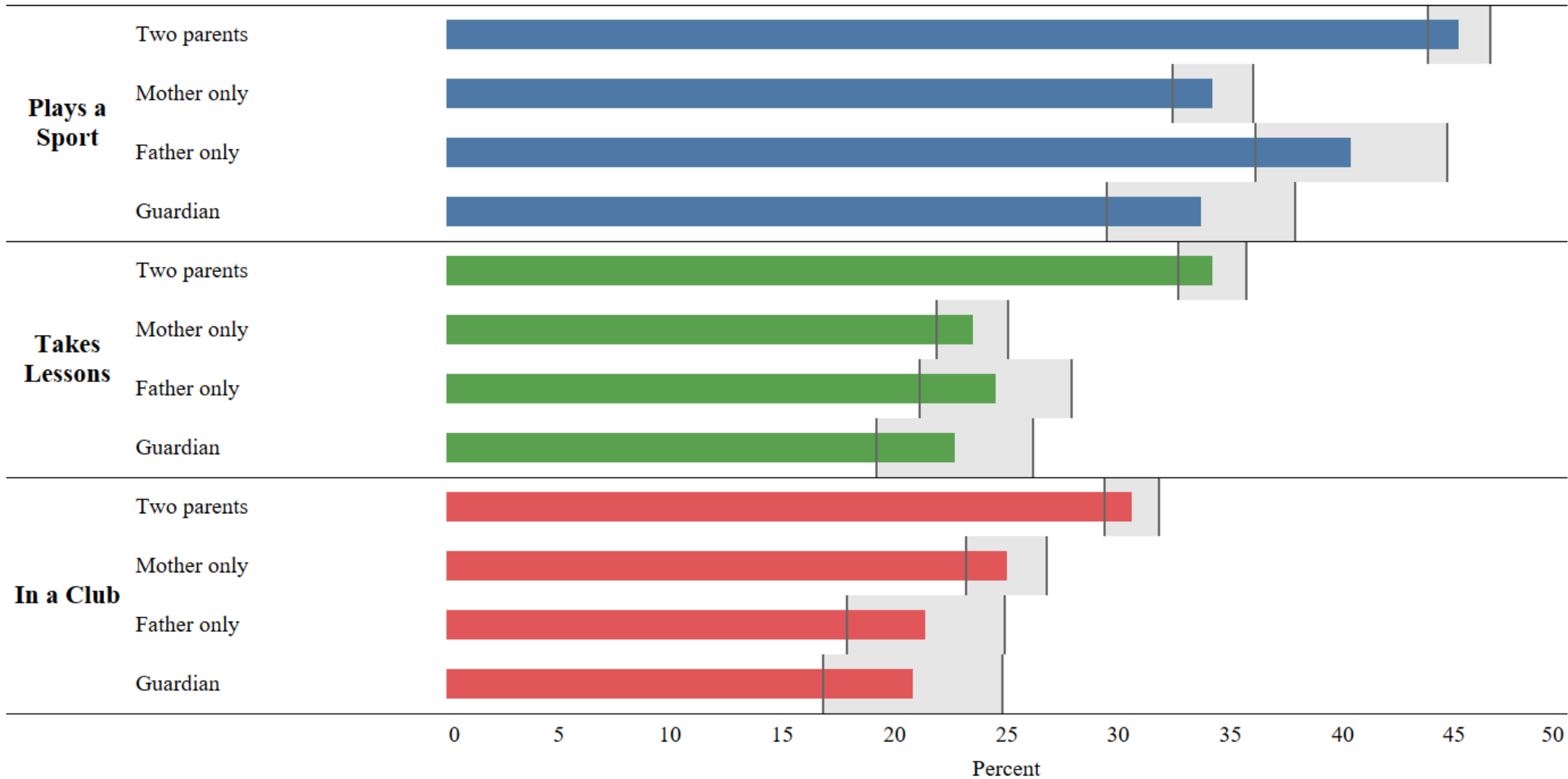
Percent of Children Ages 6-17 with School Experiences by Number of Siblings in the Household: 2014



Note: Grayed area shows 90% confidence interval

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

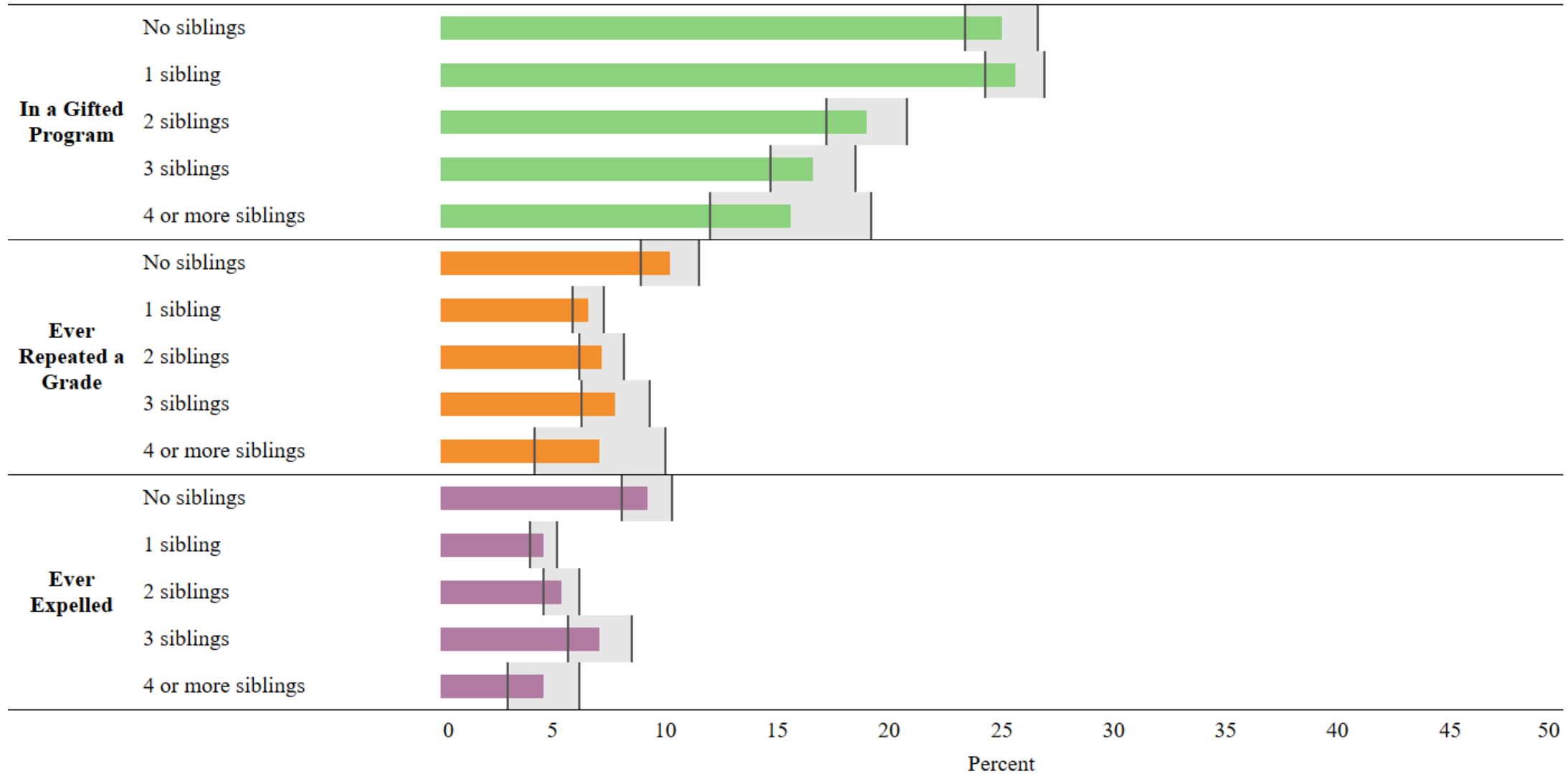
Percent of Children Ages 6-17 in Extracurricular Activities by Presence of Parents in the Household: 2014



Note: Grayed area shows 90% confidence interval

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Percent of Children Ages 6-17 with School Experiences by Number of Siblings in the Household: 2014



Note: Grayed area shows 90% confidence interval

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Summary of Logistic Regression Results

Likelihood of participation in extracurricular activities and school experiences

Type of siblings in household	Extracurricular Activities	School Experiences
<i>No half/step siblings (ref group)</i>		
At least one half/step sibling	Plays a sport Takes lessons ↓ Involved in a club	In a gifted program Ever repeated a grade ↑ Ever been expelled ↑

Note: Variables in bold are statistically significant ($p < 0.05$)

Regression model includes: Type of sibling, number of siblings, parents present in the home, poverty status, race/origin, and child's age

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Summary of Logistic Regression Results, Continued

Likelihood of participation in extracurricular activities and school experiences

Number of siblings in household	Extracurricular Activities	School Experiences
<i>No siblings (ref group)</i>		
<i>1-2 siblings</i>	Plays a sport Takes lessons Involved in a club	In a gifted program Ever repeated a grade Ever been expelled
<i>3 or more siblings</i>	Plays a sport Takes lessons Involved in a club	In a gifted program Ever repeated a grade Ever been expelled

Note: Variables in bold are statistically significant ($p < 0.05$)

Regression model includes: Type of sibling, number of siblings, parents present in the home, poverty status, race/origin, and child's age

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Summary of Logistic Regression Results, Continued

Likelihood of participation in extracurricular activities and school experiences

Parents in household	Extracurricular Activities	School experiences
Two parents (ref group)		
Mother only	Plays a sport Takes lessons Involved in a club	In a gifted program Ever repeated a grade Ever been expelled
Father only	Plays a sport Takes lessons Involved in a club	In a gifted program Ever repeated a grade Ever been expelled
Guardian	Plays a sport Takes lessons Involved in a club	In a gifted program Ever repeated a grade Ever been expelled

Note: Variables in bold are statistically significant ($p < 0.05$)

Regression model includes : Type of sibling, number of siblings, parents present in the home, poverty status, race/origin, and child's age

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Summary of Logistic Regression Results, Continued

Likelihood of participation in extracurricular activities and school experiences

Family Poverty Status	Extracurricular Activities	School Experiences
<i>Below poverty (ref group)</i> <i>100-299% of poverty line</i>	Plays a sport ↑ Takes lessons ↑ Involved in a club	In a gifted program Ever repeated a grade Ever been expelled
<i>300%+ of poverty line</i>	Plays a sport ↑ Takes lessons ↑ Involved in a club ↑	In a gifted program ↑ Ever repeated a grade ↓ Ever been expelled ↓

Note: Variables in bold are statistically significant ($p < 0.05$)

Regression model includes: Type of sibling, number of siblings, parents present in the home, poverty status, race/origin, and child's age

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Summary of Logistic Regression Results, Continued

Likelihood of participation in extracurricular activities and school experiences

Race/Origin	Extracurricular Activities	School Experiences
<i>White non-Hisp (ref group)</i> <i>Black, non-Hisp</i>	Plays a sport ↓ Takes lessons ↓ Involved in a club ↓	In a gifted program Ever repeated a grade Ever been expelled ↑
<i>Hispanic (of any race)</i>	Plays a sport ↓ Takes lessons Involved in a club ↓	In a gifted program ↓ Ever repeated a grade Ever been expelled

Note: Variables in bold are statistically significant ($p < 0.05$)

Regression model includes: Type of sibling, number of siblings, parents present in the home, poverty status, race/origin, and child's age

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 Panel, Wave 1

Conclusion

- Complex sibling arrangements are not uncommon in families today
 - Nearly 1 in 5 children (17 percent) live with at least one half sibling
- Because complex living arrangements are a reality for many American families, it is crucial to collect data that accurately captures the relationship among the family members in a household

Conclusion

- Children with fewer and only biological siblings, living with two parents had higher extracurricular involvement and more positive school experiences
 - Controlling for race and poverty status narrowed this gap, but did not erase this relationship
- The resources available for a child to excel in school and participate in extracurricular activities appear to become strained when there are fewer parents and more siblings in the home
 - This relationship is further complicated by the various sibling configurations that a child may experience

Thank You

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For more information on child well-being, see
A Child's Day report at:
[https://www.census.gov/library/publications/
2018/demo/p70-159.html](https://www.census.gov/library/publications/2018/demo/p70-159.html)

A Child's Day: Parental Interaction, School Engagement, and Extracurricular Activities: 2014

Current Population Reports

By Brian Knop and Julie Siebens
P70-159
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INTRODUCTION

Children's lives are shaped by their experiences in school and in extracurricular activities—both of which are sources of learning, identity formation, and socialization. This report uses a number of indicators

SURVEY OF INCOME AND PROGRAM PARTICIPATION 2014 CHILD WELL-BEING DATA

The SIPP collects information on a variety of child